

REMARKS

This Amendment responds to the Office Action dated May 11, 2007 in which the Examiner identified claims 7-8 as being allowable if rewritten in independent form and rejected claims 1-6 and 9-12 under 35 U.S.C. §103. New claims 13 and 14 correspond to allowable claims 7 and 8.

Applicants respectfully point out that claims 11 and 12 recite the same features as claims 7-8. Therefore, applicants respectfully submit that claims 11 and 12 should also be allowable.

Claim 1 claims a permanent magnet molding apparatus comprising: a mounting base, a plurality of transferable metal die units, a pressurizing unit and a magnetic field generating means. The transferable metal die units are transferable onto and off the mounting base. Each metal die unit includes a die, a lid member and a pair of punches. The die has a cavity of a desired cross-sectional shape into which magnet molding material powder is filled before being transferred to the mounting base. The cavity extends in groovelike form in a specific direction on a surface of the die. The lid member is placed against a facing surface of the die as if covering the cavity. The pair of punches have the same cross-sectional shape as the cavity. The punches are positioned to fit in the cavity such that the punches close the cavity at both ends thereof. The punches are made slidable in directions in which the punches go into contact with and become separated from the magnet molding material powder. The pressurizing means holds the metal die unit, which has been transferred to the mounting base, with the magnet molding material powder in the cavity and is for pressurizing the magnet molding material powder by driving the two punches such that the two punches slide in their approaching

directions. The magnetic field generating means magnetizes the magnet molding material powder pressurized in the cavity while applying a magnetic field thereto in a direction perpendicular to a direction of pressurization.

It is respectfully submitted that the prior art does not show, teach or suggest the subject matter recited in claim 1.

Claims 1-6 were rejected under 35 U.S.C. §103 as being unpatentable over *Matsushita* (JP 2002-105505) in view of *Hirabayashi* (U.S. Patent No. 6,355,210).

Matsushita appears to disclose a method for molding powder and granular material, comprising a flask assembly step for assembling a flask 12 by a plurality of separable split frame members 16, 16, 17 and 17 for the flask, a filling step for filling the powder and granular material into a powder and granular material filling space S inside the flask 12, and a molding step for molding the filled powder and granular material by pressing the filled powder and granular material with upper and lower dies 13 and 14. The molding step comprises a pre-pressing step for performing the molding in the state of forming an air releasing space between the adjacent split frame members 16 and 17 for the flask, and a post-pressing step for performing the molding in the state of closing or reducing the air releasing after the pre-pressing step, with the pressure for pressing the powder and granular material in the post-pressing step being higher than that of the pre-pressing step. (Abstract).

Thus, *Matsushita* merely discloses filling powder and granular material into a filling space S inside a flask 12 and then pre-pressing the material with upper and lower dies 13 and 14. It does not disclose a plurality of transferable metal die units together with a means for transferring the metal die units one by one onto and off a mounting base. In contrast to the arrangement disclosed in the reference, the

claimed subject matter provides improved productivity since the magnetization and pressurization operations do not need to be interrupted while the magnetic molding material is being filled in a die.

Additionally, nothing in *Matsushita* shows, teaches or suggests a magnetic field generating means magnetizing the magnetic molding material powder pressurized in the cavity as claimed in claim 1.

Furthermore, it does not disclose a cavity extending in a groove-like form in a specific direction on a surface of a die. In the claimed arrangement, the magnetic molding material in the cavity is laterally pressurized from both sides. As a result, good uniformity of the product is achieved. In contrast, since the filling space extends in the perpendicular direction in *Matsushita*, the molding material is pressurized in a perpendicular direction, and the uniformity of the product is adversely affected by gravity. Consequently, even if a magnetic field generating means is used, magnetization cannot be performed with sufficient reliability.

Hirabayashi appears to disclose in FIG. 3 a powder-compacting apparatus that includes a magnetic coil for a partial cylindrical segmented magnet for use in a motor when the powder is compacted under a magnetic field. (Column 9, lines 39-43).

Thus, *Hirabayashi* merely discloses a compacting mold structure that includes a magnetic coil such that the powder is compacted under a magnetic field. Nothing in *Hirabayashi* shows, teaches or suggests a plurality of transferable metal die units that are transferred onto and off a mounting base one by one, as recited in claim 1. *Hirabayashi* merely discloses compacting powder under a magnetic field.

Furthermore, the structure of the die of *Hirabayashi* is completely different from the claimed invention. In particular, nothing in *Hirabayashi* shows, teaches or suggests the cavity extending in groove-like form in a specific direction on a surface of the die, and a pair of punches having the same cross-sectional shape as the cavity, as recited in claim 1. Rather, *Hirabayashi* merely discloses a die 2 having a plurality of pressurizing rods 3 disposed below the filled powder, an elastomeric plate 4 and a wedge bar 7 inserted into the die through a lower opening of the die to vertically raise the pressurizing rods. (Column 8, lines 22-50).

Since neither *Matsushita* nor *Hirabayashi* shows, teaches or suggests a plurality of transferable metal die units having a die in which magnetic molding material powder is prefilled before being transferred one by one to a mounting base, as recited in claim 1, Applicants respectfully request the Examiner to withdraw the rejection of claim 1 under 35 U.S.C. §103.

Claims 2-6 depend from claim 1 and recite additional features. Applicants respectfully submit that claims 2-6 would not have been obvious within the meaning of 35 U.S.C. §103 over *Matsushita* and *Hirabayashi* at least for the reasons as set forth above. Therefore, applicants respectfully request the Examiner to withdraw the rejection of claims 2-6 under 35 U.S.C. §103.

Claims 9-12 were rejected under 35 U.S.C. §103 as being unpatentable over *Matsushita* in view of *Hirabayashi* and further in view of *Maekawa et al* (U.S. Patent No. 3,663,147).

Applicants respectfully traverse the Examiner's rejection of the claims under 35 U.S.C. §103. As discussed above, since nothing in *Matsushita* and *Hirabayashi* shows, teaches or suggests the primary features as claimed in claim 1, applicants

respectfully submit that the combination of the primary references with the reference to *Maekawa et al* would not overcome those differences. Therefore, applicants respectfully request the Examiner to withdraw the rejection of claims 9-12 under 35 U.S.C. §103.

Thus it now appears that the application is in condition for allowance. Reconsideration and allowance at an early date are respectfully requested.

In the event that this paper is not timely filed within the currently set shortened statutory period, applicants respectfully petition for an appropriate extension of time. The fees for such extension of time may be charged to our Deposit Account No. 02-4800.

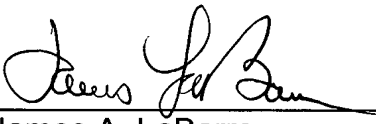
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Respectfully submitted,

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